

PULMONARY EXAMINATION

1. **General Examination** — Before doing the examination of the respiratory system a general examination relevant to the respiratory system should be carried out.

1. Appearance.
2. pallor. (yellowish discoloration of skin)
3. cyanosis. Blueish & greyish colour of skin, nails
4. clubbing (excessive curvature of the nail)
5. venous pulses. jugular V. pulse at right side of the neck
6. lymph node enlargement.

* Examination of the respiratory system is carried out by

- 1) **inspection**. (to observe)
- 2) **palpation**. (touch)
- 3) **percussion**. (tap with left or right hand or finger)
- 4) **Auscultation**. using stethoscope

* Examination of the chest —

1) **Inspection** —

- shape of the chest — The normal chest is bilaterally symmetrical & elliptical in cross section.

— The transverse diameter > anteroposterior diameter

- Common abnormalities of shape —
- 1) **kyphosis** — forward bending of vertebral column.
 - 2) **Scoliosis** — lateral bending of vertebral column.

3 barrel shaped chest - rise in anteroposterior diameter.

4. flattening.

- Rate & Rhythm of respiration - Rate of respiration in health (adult) **12-14 breaths/min**
- Measurement of chest expansion - chest expansion can be measured with a tape measure around the chest just below the nipples in a healthy adult it is about **3-5 cm**.
- Symmetry of chest expansion - chest expansion of a healthy adult should be equal on both sides.
- Movement of the chest wall - presence of intercostal recessions or the use of accessory muscles.

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2. **Palpation** :- Before making a systemic examination palpate any part of the chest where the pt complains of pain or where there is a swelling.

→ Position of the apex beat & Trachea.

In normal subject the trachea is in the midline & can be palpated in the suprasternal notch.

The **apex beat** (the lowest & outmost point of definite cardiac pulsations) can be usually palpated in the 5th intercostal space within the midclavicular line.

→ Displacement of the apex beat & trachea indicates that the position of the mediastinum has been altered.
This may be due to disease of the heart, lungs or pleura.

• Expansion of the chest - Symmetrical or asymmetrical chest expansion can be assessed by palpation.

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• **Vocal Fremitus** - Vocal fremitus is the vibration detected by palpation with the palm of the hand on the chest, when the pt is asked to 'repeat' 'gg' or 'anunavaya'.

→ In a normal healthy adult, the vibrations felt in the corresponding areas on the two sides of the chest are equal in intensity.

3. **Percussion** :- The middle finger of the left hand is placed on the chest & middle phalanx is struck with the tip of the middle finger of the right hand.

→ Compare the percussion note (resonant) with that of the corresponding area of the opp. side of the chest.

→ A resonant sound is produced during percussion. The sound & feel of resonance over a healthy lung has to be learned by practice.

4) Auscultation -

Breath sounds - There are 2 types of breath sounds (1) Vascular breath sound (VBS)

(2) bronchial breath sound.

i) Vascular breath sound [VBS] - These originate in the larger airways & are produced by the passage of air in & out of normal lung tissue.

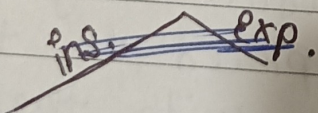
In good health, they can be heard all over the chest.

The inspiration is longer than expiration.

The inspiration sound is intense & louder than the expiratory sound.

It is a low pitched resulting sound.

There is no gap b/w inspiration & expiration.

ins.  exp.

Bronchial breath sound:- These are loud, harsh midrange pitch.

The expiration is longer than Inspiration